

**Specification (Measurement)**

**Transport and Main Roads Specifications  
MRS256 Power Cables**

**July 2023**



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## 1 Introduction

This Specification applies to the supply and installation of power cables for the supply of electrical power to electrical installations, including traffic signal installations and Rates-2 and Rate-3 road lighting installations.

This Specification shall be read in conjunction with MRS01 *Introduction to Specifications*, MRTS256 *Power Cables* and other Specifications as appropriate.

This Specification forms part of the Transport and Main Roads Specifications Manual.

## 2 Measurement of Works

### 2.1 Standard Work Items

In accordance with the provisions of Clause 2 of MRS01 *Introduction to Specifications*, the Standard Work Items covered by this Specification are listed in Table 2.1.

Work Items 67104 and 67112 have been modified to cover all cables (i.e. including ITS power cables)

**Table 2.1 – Standard Work Items**

Standard Item No.	Description	Unit of Measurement
67101	Supply of underground road lighting cable, [conductor size], [number of cores] cores, [core insulation], [sheath insulation], [conductor material]	m
67102	Supply of aerial road lighting cable, [conductor size], [number of cores] cores, [core insulation], [sheath insulation], [conductor material]	m
67103	Supply of traffic signal cable, [conductor size], [number of cores] cores, [core insulation], [sheath insulation], [conductor material]	m
67104	Supply of cable, [usage], [conductor size], [number of cores] cores, [core insulation], [sheath insulation], [conductor material]	m
67105	Supply of cable joint, [fused   unfused]	each
67106	Supply of aerial cable strain clamp	each
67107	Supply of aerial cable connector, [type]	each
67108	Supply of right angle strain relief bushing (to suit 26 mm diameter hole)	each
67109	Installation, jointing and termination of underground road lighting cable, [cores]	m
67110	Installation, jointing and termination of traffic signal cable, [cores]	m
67111	Installation, jointing and termination of loop detector cable, [cores]	m
67112	Installation, jointing and termination of cable, [usage], [cores]	m
67113	Installation, jointing and termination of aerial road lighting cable, [cores]	m

Standard Item No.	Description	Unit of Measurement
67191	Removal of underground cable	m
67192	Removal of aerial cable	m

## 2.2 Work Operations

**Item 67101** Supply of underground road lighting cable, [*conductor size*], [*number of cores*] cores, [*core insulation*], [*sheath insulation*], [*conductor material*]

**Item 67102** Supply of aerial road lighting cable, [*conductor size*], [*number of cores*] cores, [*core insulation*], [*sheath insulation*], [*conductor material*]

**Item 67103** Supply of traffic signal cable, [*conductor size*], [*number of cores*] cores, [*core insulation*], [*sheath insulation*], [*conductor material*]

**Item 67104** Supply of cable, [*usage*], [*conductor size*], [*number of cores*] cores, [*core insulation*], [*sheath insulation*], [*conductor material*]

**Item 67105** Supply of cable joint, [*fused* | *unfused*]

**Item 67106** Supply of aerial cable strain clamp

**Item 67107** Supply of aerial cable connector, [*type*]

**Item 67108** Supply of right angle strain relief bushing (to suit 26 mm diameter hole)

Work Operations incorporated in the above items include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*, and
- b) supply of all materials to the Site.

**Item 67109** Installation, jointing and termination of underground road lighting cable, [*cores*]

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) installation of cables through ducting
- c) connection and termination of cables
- d) replacement of draw ropes in ducting, and
- e) testing of installation.

**Item 67110** Installation, jointing and termination of traffic signal cable, [*cores*]

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) installation of cables through ducting, posts, mast arms and poles
- c) connection and termination of cables, including the connection and termination of cables at the appropriate terminal assembly within the traffic signal post, mast arm or joint use pole
- d) replacement of draw ropes in ducting, and
- e) testing of installation.

**Item 67112 Installation, jointing and termination of cable, [usage], [cores]**

Work Operations incorporated in the above items include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) installation of cables
- c) connection and termination of cables, and
- d) testing of installation.

**Item 67113 Installation, jointing and termination of aerial road lighting cable, [cores]**

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) installation of cable
- c) connection and termination of cables, and
- d) testing of installation.

**Item 67191 Removal of underground cable**

**Item 67192 Removal of aerial cable**

Work Operations incorporated in the above items include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) de-energisation of circuit
- c) removal of cable, and
- d) transport to Transport and Main Roads' storage Site.

**2.3 Calculation of quantities**

Quantities for the supply and installation of underground cable for traffic signals (other than multicore) and road lighting cable shall be the sum of the measured duct length plus 4 m for each pit through which the cable passes.

Quantities for the supply and installation of traffic signal multicore cable shall be the sum of the measured duct length plus 12 m for each pit at controller, posts, joint-use poles and mast arm columns and 2 m at each intermediate pit through which cable passes plus 5 m from pit to terminal connection.

Quantities for the supply and installation of aerial cable shall be the sum of measured span lengths plus 2 m for each span, for each type of cable specified.

